Stranded Gas Hearings

(0407281530 Minutes)

Volumes, Timing, Terms, and Price of Access with 36", 48", and 52" Pipelines

Eric Watson, Project Manager, Alaska Gas Development, Enbridge Inc., July 28, 2004.

MR. ERIC WATSON, Project Manager, Alaska Gas Development, Enbridge, reminded members that Enbridge has proposed a measured approach in its Stranded Gas Act application. It includes a 36-inch pipeline design, which contrasts with the 48 and 52 inch pipelines proposed by other parties. Enbridge views the 36-inch design as a better economic alternative to meet the pipeline needs. He asked to delve into that topic today and describe some of the factors that will drive the volumes and how that will impact the pipeline design and, inevitably, the cost of delivery. He began:

> For the benefit of those who could not attend the June hearings, I will spend 30 seconds just as a quick overview of who Enbridge is, just in case you don't know about the company. We operate the world's longest crude oil pipeline system. We have assets in excess of $13 billion, a stable A credit rating, lots of cash in the bank and, as it relates to the Alaskan project, gas now makes up 40 percent of our earnings. Included in that is a 50 percent ownership in the Alliance pipeline, which is one of the major transporters of natural gas and liquids for the Chicago market and also the owner and operator of Canada's largest LDC, serving over 1.7 million customers in Ontario and northern New York State. So, we also have a bit of a market perspective on the other end as well.
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> As you may be aware, we're pursuing a greenfield project through FERC and the NEB. We are the only pipeline company with extensive experience in continuous and discontinuous permafrost construction operations [indisc.] pipeline. We have the most recent cross-border, large-diameter, high-pressure, rich gas pipeline experience, which is more than likely to be a similar scenario to the Alaska pipeline. We've participated in both study and field trials in Alaska to examine the practice of trenching in permafrost ... As I mentioned, we also have a market perspective through ownership in Canada's largest LDC.
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> As I mentioned at the outset, we're focused on a measured approach that reduces the risk of the project and aligns the interests of the stakeholders. I want to clarify that a measured approach doesn't necessarily mean a phased approach and that we are not stuck or bent on 36-inch as the only solution. We believe it is a potentially viable solution, depending on the volumes and timing of the volumes that come out of Alaska and that's really what I want to look at today. Based on what happens with these volumes and these timings is really going to drive the economics of this project and within that 36-inch is an option that we should still be looking at. So with this, we're seeking to add value within the project by working closely with other stakeholders in a collaborative and cooperative manner. Given the size of the project, we believe that not only the producers will have a role in it, but there will be other parties that are needed to also make this project a success and take on the substantial risk that it presents. We need to maximize economic opportunities for Alaskans and continental North America - I put a couple examples, such as steel supply and local labor. We'll get into a little bit of perhaps some of the benefits that a 36-inch line might mean to North America and Alaska versus the alternatives. Investing resources into local communities and First Nations groups is something we've done in the past with all of our projects. The last point is fully leveraging existing infrastructure only to the extent that it reduces costs, minimizes tolls, and maximizes netbacks for Alaska gas.
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> During the last hearing we presented on the supply outlook within the Western Canadian supply basin and how it was starting to ramp down after 2015 and what the available ex-Alberta hub take-away capacity looked like. We do want to make sure that we reiterate that while generally an existing pipeline could be a cost-effective alternative, depending on where the gas is delivered and a number of other factors that may not be the most cost-effective, it could call for a new build as well.

Ultimately, the state and shippers are interested in a pipeline that's designed to offer the lowest cost of delivery – whether that's 36 inch or 52 inch. In order to achieve this, we need to understand a number of factors that impact the design capacity and ultimately the cost of delivery. So we've heard a fair bit today about open season contract commitments. Inevitably, the project needs to be underpinned by these long-term shipping contracts and with that, from this process, that's going to really decide what the volumes look like and what the contract length is going to look like and where the gas actually needs to move to. And from that, we're going to be able to tell what the best design and what the most economic design looks like. And you've heard lots before what the rest includes. Really, it's driving out what the expectation level of unproven reserves are going to look like into the future, what people believe the gas price is going to look like....

One thing we haven't talked about a lot is where the market is for the gas as well. Is it all in Chicago? Is it in the Northeast U.S. or is it even in California as well? It's going to play a role. We've also spent a lot of time talking about expansion as well, so we believe that exploration success will drive out the expansion volumes and the timing beyond the initially accepted risk. So whatever the market is going to accept initially, I think is going to be representative of what they believe can actually be delivered and then expansion beyond that, depending on how successful, how much investment is made into the state in refining resources and start to drive that expansion. Obviously, as an independent party, from our own selfish perspective, we'd always be looking at trying to add capacity for shippers as long as it's underpinned by a contract.

And the other element that goes with that is the take-away capacity that is actually available from Alberta. Obviously we can talk about moving all of these volumes into the Alberta market, but Alberta is a large net export market, therefore we need the capacity to actually move the gas out of Alberta as well. Based on when we move that gas and how much of it we move, it directly impacts the economics as well, whether we're able to use existing pipeline, where that gas is going, and how much gas we can actually send out.

And then construction factors – how will the construction costs be impacted by competitive supply if this project is, let's say, delayed or it's really the MacKenzie Valley – what is the labor availability going to look like? Will there be competition?

So let me just mention, the most important note, and we've heard it several times today, is that regardless, the pipeline needs to be underpinned by a long term shipping contract. Enbridge is currently working with certain parties within the market, including our own distribution. We try to align and see what the feel is for the demand and where that demand might be and what the overall commitment might be as well. But, once again, that might get fleshed out until the open season occurs.

The length and volume of the shipping contracts, as we've discussed, are impacted by such things as expected wellhead price, tolls, reserve life and government relations. Inevitably, if we get into what drives the volume's timing and design capacity has to do with our expectation of the reserve...

What I've done is taken three different examples – practical examples of the potential reserves that the market may expect and how that flushes out volumes over service life. If you actually look at what we're getting or expect or the proven out of Prudhoe Bay and take the volumes over the different service lives, we see that it ranges anywhere from 2 to 3.3 [BCF]. Based on the economics we've run, this drives preferably towards a dual 36-inch pipeline would actually provide you with the lowest toll. More reasonably, we're not going to be looking at just the 24. We've talked a lot about the 35 area and here we've got a range of the 2.7 to 4.8 [BCF]. This is where you get into a situation where the economics actually start to transition as you move up anywhere from a 36 potentially to the 52 inch line. If you actually get beyond the 35 TCF, and how much risk the market is willing to take, beyond what's proven into the realm of the probable,

we're looking at volumes in excess of potentially 5.6 to 9.7, which really goes back to what was said earlier. If we're delivering all that up front, a 52-inch pipe is most likely the economic solution.

If you've got a ramp-up that exceeds – and we did it on the basis of 5.2 BCF starting at 2.6 – as per our application, you actually ramp that up over a course of four years or more – once again the dual 36 inch pipeline from an economic perspective looks more attractive than the 52. So it all goes back to the same things you've been hearing earlier. If we send bigger volumes and we send them earlier, economically you're looking at a 48 or 52-inch option. If we're going through a phased ramp-up, or if we're starting at smaller volumes, the 36-inch becomes more practical.

CHAIR OGAN asked if Enbridge would build both pipelines simultaneously.

MR. WATSON said if he is referring to dual 36-inch pipelines, the model Enbridge used had the [second pipeline] starting two years later but that will depend on the market commitment. He stated:

So when we actually modeled it, let's say on the 52 or 48 inch basis, you'd put in all the pipe but you'd only put in enough compression that you need to start at 2.6 and then you ramp the compression up. Obviously you're not going to just – with the line you've got to put the whole line in first. With the 36-inch option, you build the first line and then after you're done, the first line you actually start to go through the construction of the next line using the same right-of-way. What that does...is it actually enables you to actually get gas to market...about one year earlier. If you use the 36-inch, you're going to get less volume to market earlier, but you're actually going to get gas to market earlier and to the extent that it's a benefit, it's going to potentially prolong the construction period as well, which is going to be more revenue for a sustained period on the construction phase within the state of Alaska.

As we talked about earlier, one thing we obviously need to do is we need to align it with not necessarily available ex-Alberta take away capacity, but we need to understand what the actual take away capacity looks like and where we're actually shipping the gas to. If you kind of implant the supply forecast versus what's available out of the Alberta market right now, and the right graph there really extrapolates from the left graph, it shows us when and how much take-away capacity is available within Alberta – and you'll see here that up until around 2018, 2019, it's less than the 5 BCF we're talking about. So what that means is we're going to need to add new capacity out of Alberta into specific markets – Chicago, it could be west. It shows us when and how much take-away capacity is available within Alberta and you'll see here that up until around 2018, 2019, it's less than the 5 BCF we're talking about.

So what that means is we're going to need to add new capacity out of Alberta into specific markets. It could be Chicago, it could be west – it's either going to go one of two ways but regardless, we're going to need to add new capacity if we're shipping those volumes when we're expected to actually commercialize gas within Alaska within the 2012 to 2014 timeframe. The question becomes is it worth phasing it in, starting with, let's say, 2.5 BCF per day, knowing that you've got the ex-Alberta capacity available there. You can use existing pipe and then ramp up the volumes, either through compression or through the construction of another 36-inch line, so that you start to match the available take-away capacity and which one of those is cheaper. We don't know that because you don't know – we've got an idea where the market is for the gas, but until the open season happens, until you know what the volume commitments are like, until you know where you actually want the gas delivered, we don't also know from the ex-Alberta perspective where we need to get that gas.

So, in the event that the MPS 36-inch pipe does make sense and that we're starting with lower volumes and ramping up over time, some of the advantages of the 36-inch line, one is the greater certainty around the cost estimates that we have. There are a number of companies within North America right now that manufacture 36-inch. There are none that actually manufacture 48 or 52-inch pipelines within North America so there's a greater supply risk around the 48 or the 52- inch option.

A big benefit potentially to the state is that we're in service one year earlier so you're making revenues one year earlier as well. It's easier to perform maintenance without service interruption. You're going to find a more experienced and skilled labor force that's actually worked with the construction. The big bang here as well is...more supplies can be sourced from Canada and the U.S. versus overseas. We're just going to have a more positive impact on the North American economy, and potentially within Alaska as well. We're going to be able to keep more of the revenue within the state and in the construction process as well, versus having to go over to Japan or Germany or Russia.

One of the disadvantages that we talked about is really just the reduced economy of scale if you're able to bring on higher volumes right away.

So...just to wrap up some of the key points here...is that one, and we've heard it all today, is that the open season volume commitments and ramp-up timing will drive the most economic pipeline design and we don't know what that looks like yet. The Alaska to Alberta volumes and timing need to be matched with the lowest cost Alberta to market take-away capacity and, as I mentioned, that may mean existing pipeline or that could be new pipeline. Alliance Pipeline, which Enbridge has a 50 percent ownership in, for example, has .5 BCF of cheap expansion – the cheapest expansion available into the Chicago market through compression. Other than that, we need to look at a new build out of the Alberta market, whether it's through TransCanada, through Northern Border, or through other options.

So our measured approach is – it's not a phased approach, we're really just aiming to align the Alaska volumes, whatever they are, whatever the market's willing to step up to, what they're willing to take as far as risk and provide, either, you know, through an existing or for optimal cost efficiency and market alignment....

SENATOR WAGONER asked what would happen to Enbridge's interest in this project if, in fact, the gas liquids were stripped out in Fairbanks and shipped down the TransAlaska pipeline to be used for other industries.

MR. WATSON said that would not have any impact on Enbridge's decision in the project. He noted, "It's really what's best for the producers, where they're going to get – and the state itself, or the gas owners, wherever they're going to get the best netbacks, I think there potentially could be some resistance from the Province of Alberta itself...." He said whether it is moved into the Alberta market or not will have no bearing on whether it's good or bad for Enbridge. He continued:

So if Alaska wants to build a petrochemical industry up here and the gas and the liquids need to be left within the state, that's fine, or, if the producers in the state feel that liquids need to go into the Province, certainly the infrastructure exists there to handle the liquids.

SENATOR ELTON asked Mr. Watson to discuss the tension between access and capacity and those with the proven reserves and those who may be more dependent on undiscovered resources with a 36-inch pipe. He asked what happens with a smaller pipeline transmission system.

MR. WATSON said he does not see a smaller pipeline making it more challenging to get access. Initially there would be less access because of the smaller design capacity but the plans could allow for a ramp up to 5.2 over the course of 3 to 4 years, so that capacity would become available at the same time as a 52-inch line.

SENATOR ELTON said during testimony by Department of Revenue staff, members learned they may need to have a discussion on smaller amounts of gas moving over a longer period of time. It would seem easier, during an open season for those with reserves but less capacity to have it easier than those without, because if capacity is increased over time, that would make it more difficult for explorers who have to wait.

MR. WATSON said Senator Elton hit the nail on the head when he said the producers or shippers

themselves would decide during the initial open season because:

> You hit a crossover there where the 52-inch line becomes a more economical choice. It really depends what the market's willing to step up to initially so you don't go into the open season and say, okay, we're proposing a dual 36-inch pipeline. The market comes to the open season and [you] say, okay, here's the gas we need within the Lower 48 and then you take that away and say okay, what's the most economical pipeline design.... So, to that extent, that's where we're coming with the measured approach, is that we need to come in with an understanding of what the market needs, what volumes they need and really where they need it as well. Obviously, it's not going to impact the design from Alberta or [indisc.] from Alaska to Alberta but also what needs to happen from Alberta to market as well.

CHAIR OGAN expressed concern about the disadvantages of higher capital costs, which will translate into higher tariffs, and questioned whether Enbridge has run any models on the differences.

MR. WATSON said Enbridge has and [the answer] depends on the volumes. As you start to shift into lower volumes, that's where the 36-inch will come up with a smaller capital cost because an asset will be buried in the ground that is not being utilized. The other consideration is the ramp-up time. It gets back to the open season and matching a design that produces the lowest toll for what's needed in the marketplace. That is why Enbridge is not saying the 36-inch pipe is the most economic; other alternatives may be more economic, depending on what the market needs. He pointed out:

> And from our numbers, once you get... over 4 BCF a day, if you can take that initially, and that's what the market is willing to accept, that's kind of the crossover where it becomes more economic to look at the larger line. If the market's stepping up for less initially, you've got kind of two factors. If they're stepping up for a lot less for a long period of time, the dual 36-inch is more economic. If they're stepping up for less initially and you've got a ramp-up that occurs over a period of four more years, the numbers we used were 2.6 up to 5.2 over the course of four years, you're pretty much at a break even as far as the tolls that work out. So, a 48 or 52-inch option would come up with about the same toll as a 36. A lot has to do with being able to bring the capacity to market a year earlier and some of the economic factors and depreciation as well.

REPRESENTATIVE GARA said it seems counter-intuitive to him that if Enbridge plans to build two 36-inch pipes, that it would be as efficient to come up and down the corridor with a crew of workers twice. He asked Mr. Watson to give an estimate of the production costs of the dual 36-inch pipe and one 48-inch pipe. He then said that many people want to be able to tap into the pipeline to use some of that gas, but Mr. Watson said that would not impact Enbridge. He questioned how that could not but impact Enbridge since it would create less capacity after the tap-in point.

MR. WATSON responded, in regard to Representative Gara's first question, Enbridge has estimated the cost of construction at $1.3 billion more to build the dual 36-inch pipe versus the 48-inch option. He noted from a total capital cost in-the-ground perspective, it might cost a little more, but there would be less risk. Regarding the second question, he said his point is it is the same issue for Enbridge as a pipeline company as it would be for any other. If gas was taken out of the system at Fairbanks, that would definitely have an impact on the total system, but he can't answer what the industry would plan to do to make concessions for that.

CO-CHAIR OGAN asked if it would be a matter of stationing the compressors a little farther apart after Fairbanks.

MR. WATSON said a number of things could be done but that he is not in a position to say what the best alternative would be.

REPRESENTATIVE BETH KERTTULA asked if the dual pipelines would require two open seasons and two tariffs.

MR. WATSON replied there would be one open season – the dual pipeline would be a design element that would entail looping the line. He explained,

> Now it depends, if it's not part of the initial open season for the commitment, then yes, if it was

labeled expansion, you'd certainly have to go back, but I think the intent would be to include it. If you don't need the 5.2 BCF a day right now, but you need it in the four years, you may apply saying okay, this is all part of it. We're building from 2.6 up to 5 and it's going to take four to five years longer to build it so you make that all part of the initial commitment....

REPRESENTATIVE KERTTULA said she understands the arguments but it seems that right from the beginning, it undersells Alaska's resource. She explained that she understands the market but it makes her nervous because Alaska's best interest is to get the gas up and to the market.

MR. WATSON said it is not the pipeline company that decides what the reserves are and what the market is willing to take. They are trying to get more commitment. Building bigger and sooner is a benefit to his company.

We just want to present that as a potential economic alternative, if the case happens that the market only steps up for this or you need a phased approach – because we also need to look at the economics, as well as what the tolls look like, not only from Alaska to Alberta, but what the tolls look like from Alberta to the market, as well. If we can use existing pipelines and fill existing pipes, it could reduce tolls or tariffs from Alberta to Chicago by, who knows, maybe five or ten cents.... This is just one potential option.